

What is claimed is:

- 1 1. An isolated low-voltage supply source for a control circuit of a
2 high-voltage load, in or upstream of a rectifying bridge, comprising:
3 a first low-voltage capacitor having a first electrode connected to one
4 of the rectified output terminals of the bridge; and
5 at least one second capacitor providing said low voltage, a first
6 electrode of the second capacitor being connected to one of the A.C. input terminals
7 of the bridge, the respective second electrodes of the capacitors being connected by
8 a high-voltage diode having its cathode connected to the second capacitor.
- 1 2. The circuit of claim 1, wherein the charge of the second
2 capacitor occurs during a conduction period of the bridge when that of its rectifying
3 elements which connects the respective first electrodes of the capacitors conducts,
4 this element connecting the electrodes having the most negative potential.
- 1 3. The circuit of claim 1, wherein the first capacitor is a capacitor of
2 low-voltage supply of a circuit downstream of the bridge.
- 1 4. The circuit of claim 1, comprising a second high-voltage diode
2 having its anode connected, via a logic control switch, to the second electrode of the
3 first capacitor, and having its cathode connected to a logic input terminal of the
4 control circuit upstream of the bridge.
- 1 5. The circuit of claim 1, wherein the rectifying bridge is a fullwave
2 or three-phase bridge.
- 1 6. The circuit of claim 1, wherein the bridge is a composite or
2 controlled bridge.
- 1 7. The circuit of claim 6, wherein said load is formed of at least one
2 of the rectifying elements of the bridge.
- 1 8. The circuit of claim 1, wherein the first capacitor is charged by
2 an auxiliary winding of a transformer of a switched-mode power supply downstream
3 of the bridge.
- 1 9. A power supply, comprising:
2 first and second input nodes operable to receive an AC voltage;

3 first and second output nodes operable to provide a rectified voltage;
4 a circuit coupled to one of the input nodes;
5 a first capacitor having a first node coupled to one of the output nodes
6 and having a second node;
7 a second capacitor having a first node operable to provide a signal to
8 the circuit and having a second node coupled to one of the input nodes; and
9 a first diode having first and second nodes respectively coupled to the
10 second node of the first capacitor and to the first node of the second capacitor.

1 10. The power supply of claim 9 wherein the circuit and the second
2 capacitor are coupled to the same one of the input nodes.

1 11. The power supply of claim 9, further comprising a full-wave
2 rectifier coupled to the input nodes and to the output nodes.

1 12. The power supply of claim 9, further comprising:
2 a load coupled to one of the first and second input nodes;
3 a switch coupled to the load; and
4 wherein the circuit is operable to control the switch.

1 13. The power supply of claim 9, further comprising:
2 a full-wave rectifier coupled to the input nodes and to the output nodes
3 and to the circuit; and
4 wherein the circuit is operable to control operation of the full-wave
5 rectifier.

1 14. The power supply of claim 9, further comprising:
2 a third capacitor having a first node coupled to the circuit and having a
3 second node coupled to one of the input nodes; and
4 a second diode having a first node coupled to the first node of the third
5 capacitor and having a second node coupled to the second node of the first
6 capacitor.

1 15. The power supply of claim 9, further comprising a DC-DC
2 converter coupled to the output nodes and including a transformer winding coupled
3 to the second node of the first capacitor.

1 16. The power supply of claim 9 wherein the first and second nodes
2 of the first diode respectively comprise a cathode and an anode of the diode.

1 17. The power supply of claim 9, further comprising a rectifier
2 coupled to the input nodes and to the output nodes and including a second diode
3 coupled between the respective second nodes of the first and second capacitors.

1 18. The power supply of claim 9, further comprising a rectifier
2 coupled to the input nodes and to the output nodes and including a second diode
3 having a cathode coupled to the second node of the second capacitor and having an
4 anode coupled to the first node of the first capacitor.

1 19. A method, comprising:
2 charging a second capacitor with a first capacitor when a first input
3 node is positive relative to a second input node, the second capacitor having a first
4 node coupled to a first node of the first capacitor and having a second node coupled
5 to the second input node, the first capacitor having a second node coupled to an
6 output node of a rectifier that is coupled to the first and second input nodes; and
7 electrically isolating the first capacitor from the second capacitor when
8 the first input node is negative relative to the second input node.

1 20. The method of claim 19, further comprising powering with the
2 first capacitor a circuit coupled to one of the input nodes.

1 21. The method of claim 19 wherein:
2 charging the first capacitor comprises forward biasing a diode that is
3 coupled between the respective first nodes of the first and second capacitors; and
4 electrically isolating the first capacitor from the second capacitor
5 comprises reverse biasing the diode.